



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/826,802

04/16/2004

Akihiro Hata

FUJY 21.106

1580

26304 7590 10/10/2008  
KATTEN MUCHIN ROSENMAN LLP  
575 MADISON AVENUE  
NEW YORK, NY 10022-2585

EXAMINER

SCHEIBEL, ROBERT C

ART UNIT

PAPER NUMBER

2419

MAIL DATE

DELIVERY MODE

10/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,802	<b>Applicant(s)</b> HATA ET AL.	
	<b>Examiner</b> ROBERT C. SCHEIBEL	<b>Art Unit</b> 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7-9, 11 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5, 7-9, 11 and 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

- Examiner acknowledges receipt of Applicant's amendment filed 8/28/2008.
- Claims 2-5, 7-9, and 11 are currently amended.
- New claims 21-25 have been added.
- Claims 1, 6, 10, and 12-20 have been cancelled.
- Claims 2-5, 7-9, 11, and 21-25 are currently pending.

### ***Response to Arguments***

1. Applicant's arguments, see page 6, filed 8/28/2008, with respect to the objections to claims 1, 2, 5-6, 8-9, 12-13, and 19 have been fully considered and are persuasive. The objections to claims 1, 2, 5-6, 8-9, 12-13, and 19 have been withdrawn.

2. Applicant's arguments, see pages 6-8, filed 8/28/2008, with respect to the rejection of claims 1-3, 5-7, 10-14, 16, and 18 under 35 U.S.C. 102(b) and claims 4, 8, 9, 15, 17, 19, and 20 under 35 U.S.C. 103(a) have been considered but are moot in view of the new grounds of rejection. Some of the same references are used in the new rejections, but they are relied upon for different aspects of the invention than those argued by Applicant.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2419

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims **2, 3, 5, 7, 9, 11, 21, 23, and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,587,471 to Bass et al in view of U.S. Patent 6,377,546 to Guerin et al.

Regarding claim **2**, Bass discloses a packet switching device receiving a packet and, after storing the packet, forwarding the packet, said packet switching device comprising:

a group judging unit for judging whether or not the received packet belongs to a multiple addressing group including packets of which destination address is one of (1) a broadcast address, and (2) a multicast address (the unit which performs step 42 of Figure 2; as indicated in lines 64-67 of column 2, a multiple destination message can be defined as either a broadcast of multicast message);

a group analyzing unit that subdivides the received packet, when it is judged to belong to a multiple address group, into groups based on information added to the received packet, said information comprising at least one of a VLAN tag, Ether type, and MPLS label (the unit which

Art Unit: 2419

performs steps 46, 48, and 50 of Figure 2; as indicated in lines 47-60 of column 6, the class of the packet is determined at least by the VLAN ID);

a counter, provided for each of the subdivided groups, for indicating a *count* of the specified packets belonging to each of the subdivided groups in received packets, wherein a threshold value is provided for each of the subdivided groups (see the class count of steps 50 and 54, for example); and

a starting unit that starts, if the counter exceeds the threshold value provided for the subdivided group associated with the counter, a forwarding restriction of the specified packets belonging to the subdivided group associated with the counter (see steps 54, 56, and 58 which collectively start a forwarding restriction (discarding the current packet) for this group (class) of packets when the counter exceeds the threshold value for the group (class limit)).

Regarding claim **11**, Bass similarly discloses the analogous limitations.

Bass does not disclose expressly the limitation that the counter indicates a storage capacity of the specified packets, but rather indicates a packet count. However, it is well known to use a count of the storage capacity (based on the packet size) in flow control systems. Consider Guerin, for example, which discloses the use of a counter tracking the current occupied buffer by adding the packet length rather than merely counting packets. See blocks 44 and 46 of Figure 5a, for example. In these blocks, packet transmission is limited by counting storage capacity used by the particular type or group of traffic rather than a simple packet count.

Bass and Guerin are analogous art because they are from the same field of endeavor of flow control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Bass to use a counter similar to that of Guerin in place of the

Art Unit: 2419

class count. The motivation for doing so would have been to manage the traffic flow for particular classes of traffic based on the amount of buffer space the switch has available as suggested by the description of this technique throughout Guerin as a buffer management solution. Therefore, it would have been obvious to combine Guerin with Bass for the benefit of managing traffic flow based on available buffer space to obtain the invention as specified in claims 2 and 11.

Regarding claims **3 and 21**, Bass discloses the limitation that the forwarding restriction is a process of discarding the specified packets belonging to the subdivided group in the received packets without storing the specified packets (block 58 of Figure 2, for example).

Regarding claims **5 and 23**, the above combination of Bass and Guerin discloses the limitations of parent claims 2 and 11 as indicated above. Primary reference Bass does not disclose expressly the limitations of claims 5 and 23. However, Guerin discloses the limitation of a cancelling unit for canceling the forwarding restriction when said counter becomes smaller than a preset forwarding restriction terminating threshold value (as shown in Figures 5a, 5b, and 7, the counter is updated whenever a packet is transmitted and then checked whenever a packet is received; if the counter is higher than the threshold at one time and then becomes lower than the threshold later, the forwarding restriction (dropping the packet) is cancelled (the packet is not dropped)).

Bass and Guerin are analogous art because they are from the same field of endeavor of flow control systems. At the time of the invention, it would have been obvious to a person of

Art Unit: 2419

ordinary skill in the art to modify Bass to use a counter similar to that of Guerin in place of the class count and thus to also update the count upon packet transmission. The motivation for doing so would have been to manage the traffic flow for particular classes of traffic based on the amount of buffer space the switch has available as suggested by the description of this technique throughout Guerin as a buffer management solution. Therefore, it would have been obvious to combine Guerin with Bass for the benefit of managing traffic flow based on available buffer space to obtain the invention as specified in claims 5 and 23.

Regarding claims **7 and 24**, the above combination of Bass and Guerin discloses the limitations of parent claims 2 and 11 as indicated above. Primary reference Bass does not disclose expressly the limitations of claims 7 and 24. However, Guerin discloses the limitation of an adding unit for adding, in the case of receiving the specified packet belonging to the subdivided group, a size of the received specified packet to the counter associated with the subdivided group to which this specified packet belongs (see step 59 of Figure 5b), and subtracting, in the case of forwarding the specified packet belonging to the subdivided group, a size of the forwarded specified packet from said counter associated with the subdivided group to which the specified packet belongs (see step 66 of Figure 7).

Bass and Guerin are analogous art because they are from the same field of endeavor of flow control systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Bass to use a counter similar to that of Guerin in place of the class count and thus to also update the count upon packet transmission. The motivation for doing so would have been to manage the traffic flow for particular classes of traffic based on the

Art Unit: 2419

amount of buffer space the switch has available as suggested by the description of this technique throughout Guerin as a buffer management solution. Therefore, it would have been obvious to combine Guerin with Bass for the benefit of managing traffic flow based on available buffer space to obtain the invention as specified in claims 7 and 24.

Regarding claim **9**, Bass discloses the limitation that the specified packet is a broadcast packet in lines 47-50 of column 6, for example.

6. Claims **4, 8, 22, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,587,471 to Bass et al in view of U.S. Patent 6,377,546 to Guerin et al and in further view of U.S. Patent 6,426,943 to Spinney et al.

Regarding claims **4 and 22**, the combination of Bass and Guerin discloses all the limitations of parent claims 2 and 11, respectively. However, the combination of Bass and Guerin does not disclose expressly the limitations of claims 4 and 22. Spinney discloses the limitation that the forwarding restriction is a process of lowering a priority of the specified packets belonging to the subdivided group in the received packets in steps 1230 and 1235 of Figure 44. Clearly, these steps disclose reducing the priority of packets when a count exceeds a threshold. Bass, Guerin and Spinney are analogous art because they are from the same field of endeavor of packet switching. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Bass and Guerin to reduce the



Art Unit: 2419

priority of a stream in response to exceeding a threshold. The motivation for doing so would have been to minimize the likelihood of discarding packets and to provide higher priority to streams sending more data as they are more likely to be carrying time sensitive information as suggested by Spinney in lines 50-67 of column 2. Therefore, it would have been obvious to combine Spinney with Bass and Guerin for the benefit of minimizing the likelihood of packet discard to obtain the invention as specified in claims 4 and 22.

Regarding claims **8 and 25**, the combination of Bass and Guerin discloses all the limitations of parent claims 2 and 11, respectively. However, the combination of Bass and Guerin does not disclose expressly the limitations of claims 8 and 25. However, Spinney discloses the limitations of a packet buffer storing the specified packets belonging to the subdivided groups and packets other than the specified packets (Spinney discloses priority queues for storing packets throughout; see Figure 5 as one example); and a forwarding unit for forwarding, if a specified packet and a packet other than the specified packet are stored in the packet buffer, the packet other than the specified packet ahead of the specified packet (Spinney discloses in steps 1230 and 1235 of Figure 44 that the priority of certain groups of packets may be reduced based on the comparison of a count to a threshold; clearly, this discloses the limitation of transmitting the other packets (whose priority is presumed not to have been lowered) ahead of the specified packet (whose priority was lowered)). Bass, Guerin and Spinney are analogous art because they are from the same field of endeavor of packet switching. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the combination of Bass and Guerin to reduce the priority of a stream in response to

Art Unit: 2419

exceeding a threshold. The motivation for doing so would have been to minimize the likelihood of discarding packets and to provide higher priority to streams sending more data as they are more likely to be carrying time sensitive information as suggested by Spinney in lines 50-67 of column 2. Therefore, it would have been obvious to combine Spinney with Bass and Guerin for the benefit of minimizing the likelihood of packet discard to obtain the invention as specified in claims 8 and 25.

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. SCHEIBEL whose telephone number is 571-272-3169. The examiner can normally be reached on Mon-Fri from 8:30 AM - 5:00 PM.

Art Unit: 2419

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing F. Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wing F. Chan/  
Supervisory Patent Examiner, Art Unit 2619  
10/08/08

ROBERT C. SCHEIBEL  
Examiner  
Art Unit 2419

/R. C. S./  
Examiner, Art Unit 2419